CITY OF LOS ANGELES

LOCAL LIMITS EVALUATION

HYPERION WATER RECLAMATION PLANT
DONALD C. TILLMAN WATER RECLAMATION PLANT
TERMINAL ISLAND WATER RECLAMATION PLANT
LOS ANGELES-GLENDALE WATER RECLAMATION PLANT

May 2021

City of Los Angeles
Department of Public Works
Los Angeles Sanitation and Environment
Industrial Waste Management Division
2714 Media Center Drive
Los Angeles, CA 90065

There are no other inscriptions in this page.

SECTION 1: EXECUTIVE SUMMARY

The City of Los Angeles' (City) Hyperion Treatment System (HTS) is a joint outfall system consisting of the wastewater collection system and four water reclamation plants. The four plants are: Hyperion Water Reclamation Plant (HWRP), Donald C. Tillman Water Reclamation Plant (DCTWRP), Los Angeles-Glendale Water Reclamation Plant (LAGWRP), and Burbank Water Reclamation Plant (BWRP). HWRP and DCTWRP are owned and operated by the City. LAGWRP is operated by the City, but jointly owned with the City of Glendale. BWRP is owned and operated by the City of Burbank. HTS is an interconnected system that receives the sludge generated and discharged from the three upstream reclamation plants to the wastewater collection system flowing to HWRP.

DCTWRP discharges tertiary treated effluent to the Los Angeles River pursuant to the California Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDR) Order R4-2017-0062 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0056227, effective May 1, 2017. LAGWRP also discharges tertiary treated effluent to the Los Angeles River pursuant to Order R4-2017-0063 and NPDES Permit No. CA0053953, effective May 1, 2017. Both Orders were adopted by the RWQCB on March 2, 2017. HWRP discharges secondary effluent to Santa Monica Bay pursuant to Order R4-2017-0045 and the NPDES Permit No. CA0109991. The Order was adopted by the RWQCB on February 02, 2017 and became effective on April 01, 2017.

The City also owns, operates, and maintains the Terminal Island Water Reclamation Plant (TIWRP) and discharges tertiary treated wastewater to the Los Angeles Harbor pursuant to Order No. R4-2015-0119 and the National Pollutant Discharge Elimination System (NPDES) Permit No. CA0053856. The Waste Discharge Requirements (WDR) were adopted by the California Regional Water Quality Control Board (RWQCB), and became effective on August 1, 2015.

The City owns and operates an Advanced Water Purification Facility (AWPF) at TIWRP and injects high quality recycled water into the Dominguez Gap Barrier. The Water Recycling Requirements (WRR) for the Dominguez Gap Barrier Project which were adopted by the RWQCB on October 2, 2003 through Order No. R4-2003-0134 and R4-2003-0025 permits the injection of up to 5 MGD of advanced treated recycled water as a barrier to prevent seawater intrusion into the groundwater basin. The terms and conditions of the current orders have administratively continued and remain in effect until new WDR and NPDES permits are adopted. The WRR permit applies to four agencies: City of Los Angeles Department of Water and Power, City of Los Angeles Department of Public Works, Los Angeles County Department of Public Works, and Water Replenishment District of Southern California.

The WDR for each plant in the HTS requires the City, in accordance with the 40 CFR Part 403, "General Pretreatment Regulations" to conduct an evaluation whether its pretreatment local limits are adequate

to meet NPDES permit discharge limits, biosolids beneficial reuse requirements, and Water Recycling Requirements. Although BWRP is also part of the HTS, its local limit evaluation is conducted separately by the City of Burbank. As in previous evaluation studies, the City conducted this study following the EPA's recommendation that Publicly Owned Treatment Works (POTWs) base their local limits on the Maximum Allowable Headworks Loading (MAHL) analysis calculated for each Pollutant of Concern (POC). MAHL is the estimated maximum loading of a pollutant that can be received at a POTW's headworks from all permitted industrial users and other sources without causing pass-through or interference. A POC is defined as any pollutant that could be reasonably expected to be discharged in sufficient amounts to the treatment works to cause pass-through, interference with the efficiency of the treatment processes, problems in the collection system, or to jeopardize the health and safety of workers.

The local limit evaluation study involves a two-part process. The first part identifies the POCs for which MAHL analysis will be conducted. POCs are identified through screening a list of potential culprits. The list of potential POCs is derived from pollutants with known water quality limits, biosolids beneficial reuse requirements, and includes pollutants that are known to cause operational problems in the plant. For each potential POC, the influent, effluent, recycled water, and biosolids concentrations are compared with various criteria including the NPDES Water Quality Criteria, Water Discharge Requirements for Title 22 Recycled Water (WDR) Water Quality Criteria, 40 CFR 503 Biosolids Beneficial Reuse Criteria, and Biological Process Inhibition Criteria. Potential POCs present in quantities exceeding any of these criteria, are then identified as POCs.

The POCs identified for each plant are as follows:

1. DCTWRP: ammonia (as N), BOD, chloride, copper, dibenzo(a,h) anthracene, indeno(1,2,3-cd) pyrene, methylene blue active substances (MBAS), oil and grease, TDS, TSS, and zinc.
2. LAGWRP: ammonia (as N), BOD, chloride, methylene blue active substances (MBAS), oil and grease, sulfate, TDS, TSS, and zinc.
3. HWRP: ammonia (as N), BOD, chloride, copper, oil and grease, TSS, and zinc.
4. TIWRP: BOD, Boron, chloride, copper, oil and grease, TDS, and zinc.

The MAHL analysis further narrowed the list to five POCs with maximum concentrations exceeding the influent loading-to-MAHL criteria. These pollutants are:

1. Ammonia at HWRP and LAGWRP
2. BOD at HWRP
3. Chloride at LAGWRP and TIWRP
4. TDS at LAGWRP and TIWRP
5. Zinc at TIWRP

Although the MAHL analysis indicated that technically based local limits may need to be developed for these POCs, developing and establishing a new local limit based solely on exceedance of Influent-to-MAHL criteria is not a complete evaluation of the plant conditions (2004 EPA Guidance Manual). The analysis should be verified and coupled with an examination of actual plant conditions.

An in depth review of the process of POC concentration data at HWRP, DCTWRP, LAGWRP and TIWRP concluded that developing and imposing a new local limit and revising existing local limits for these pollutants would not be useful or appropriate. Therefore, the City decided against developing local limits for these POCs at this time.

Although the local limits evaluation study indicated that technically based local limits do not need to be developed for any particular pollutant, the City will retain the existing local limits in the City's industrial waste ordinance (L.A.M.C. 64.30). These local limits have proven to protect the City's wastewater collection and treatment system since 1975, and if they are removed, the influent loading to the plant may increase.

The City will continue to regulate industrial users through its permitting, inspection, monitoring and enforcement activities. The City will also continue to routinely monitor background, industrial, and plant conditions. Any changes in the influent characteristic and flow, plant operations, and permit requirements over time will be evaluated to ensure that local limits are effective in protecting the treatment works, the health and safety of its workers and the public, and the environment.

SECTION 2: INTRODUCTION

2.1 HISTORY OF CITY OF LOS ANGELES LOCAL LIMITS

Publicly Owned Treatment Works (POTWs) are required by federal regulations to develop and enforce local discharge limitations. The City has developed and enforced system-wide local limits for thirteen (13) parameters since 1975. Since development, these limits, presented in Table 1, have proven effective in protecting the City's wastewater collection and treatment systems.

Table 1: City of Los Angeles Current Local Limits

Pollutants	Instantaneous Maximum (mg/L)
Arsenic	3.0
Cadmium	15.0
Chromium (Total)	10.0
Copper	15.0
Lead	5.0
Nickel	12.0
Silver	5.0
Zinc	25.0
Cyanide (Total)	10.0
Cyanide (Free)	2.0
Dissolved Sulfides	0.1
pH Range	5.5 – 11 (Standard Units)
Total Dispersed Oil and Grease	600

2.2 DESCRIPTION OF HYPERION TREATMENT SYSTEM SERVICE AREA – COLLECTION SYSTEM

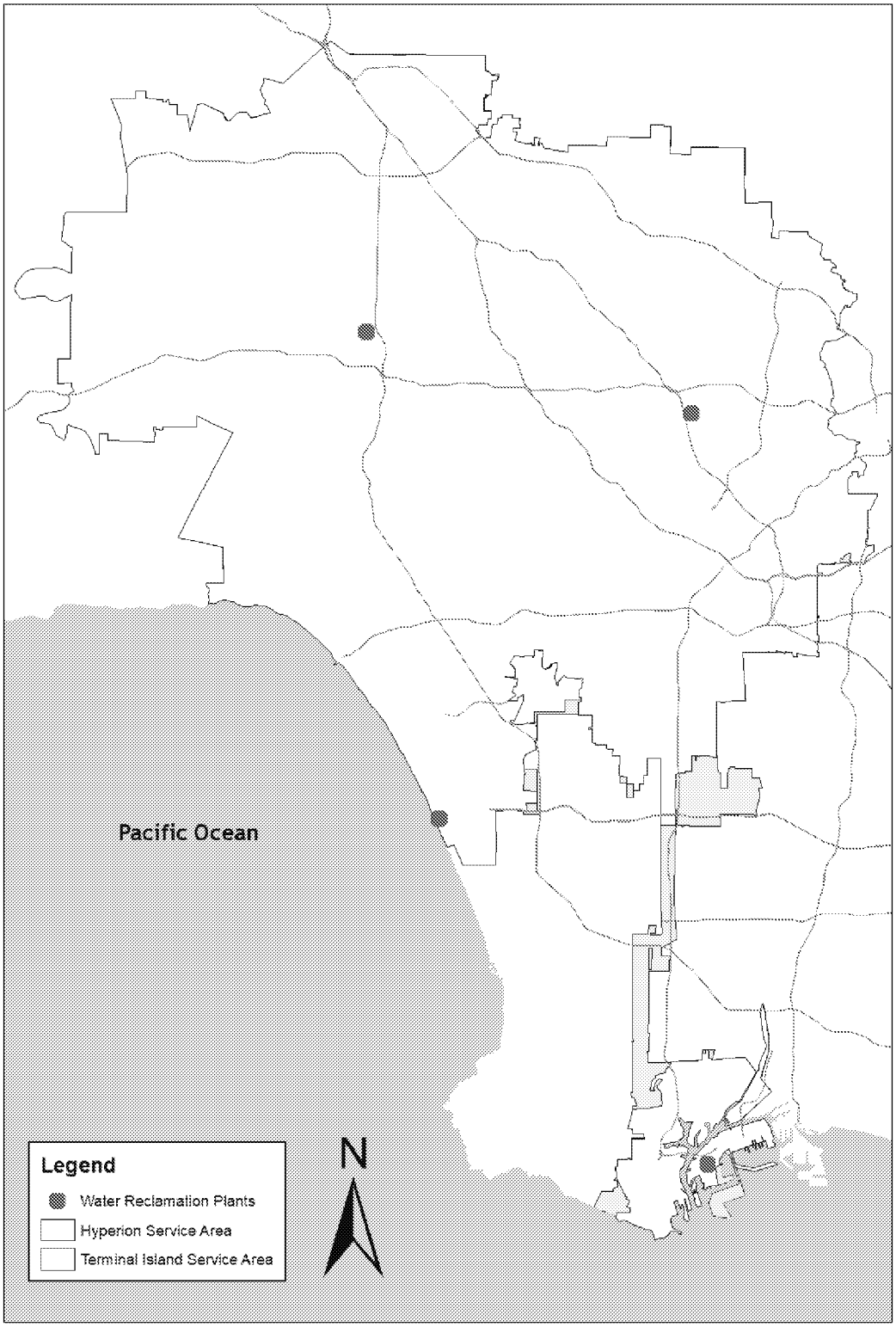
The City maintains and operates the Hyperion Treatment System (HTS), which consists of the wastewater collection system, the Hyperion Water Reclamation Plant (HWRP) and three upstream water reclamation plants: Donald C. Tillman Water Reclamation Plant (DCTWRP), Los Angeles-Glendale Water Reclamation Plant (LAGWRP), Burbank Water Reclamation Plant (BWRP) owned and operated by the City of Burbank, and their associated outfalls. (Figure 1) The Hyperion Treatment System collects, treats, and disposes of sewage from the entire City (except the Wilmington-San Pedro area, the strip north of San Pedro, and Watts) and from a number of cities and agencies under contractual agreements. The sludge from the three

upstream plants is returned to the collection system and flows to HWRP. Approximately 85% of the sewage and commercial/industrial wastewater is generated in the City of Los Angeles. The remaining 15% comes from the contract cities and agencies. The HTS includes 6,138 miles of public sewers, 21 pump stations, 11 miles of forcemains, 87,263 maintenance holes serving a population of approximately four million people in the City of Los Angeles and other contract agencies.

The City also maintains and operates the Terminal Island Service Area (TISA) located in the far southern portion of the City (Figure 1). It serves approximately 161,747 people in the communities of San Pedro, Wilmington, and Harbor City. TISA is bordered to the West by the City of Rancho Palos Verdes, to the North by Lomita Boulevard in Harbor City, to the East by the City of Long Beach, and to the South by the Pacific Ocean. The TISA includes pump stations, sewer pipes, and maintenance holes. The TISA encompasses approximately 32 square miles.

The influent flow consists of domestic, commercial, and industrial wastewater. Industrial wastewater is generated from industries such as food processing, chemical processing, docking and storage facilities, and a petroleum refinery. Currently, industrial and commercial wastewater represents approximately 53% of the total TIWRP influent flow.

Figure 1: City of Los Angeles Wastewater Service Area



2.3 DESCRIPTION OF HYPERION TREATMENT SYSTEM SERVICE AREA – TREATMENT SYSTEMS

Donald C. Tillman Water Reclamation Plant

DCTWRP is part of the City's integrated network of the upstream water reclamation plants within the HTS. The tertiary wastewater treatment plant is located at 6100 Woodley Avenue, Van Nuys, California. DCTWRP treats domestic, commercial, and industrial wastewater generated from the communities of Chatsworth, Canoga Park, West Hills, Woodland Hills, Northridge, Granada Hills, Mission Hills, Pacoima, Tarzana, and Van Nuys. The City of San Fernando, Las Virgenes Municipal Water District, and the Triunfo Canyon Sanitation District, also discharge wastewater to DCTWRP under contractual agreements. DCTWRP serves a population of approximately 1 million people. The DCTWRP consists of two identical treatment trains, each with a dry-weather average design capacity of 40 million gallons per day (MGD), for a total 80 MGD.

Sewage enters DCTWRP via the Additional Valley Outfall Relief Sewer (AVORS) and the East Valley Interceptor Sewer (EVIS). DCTWRP's wastewater treatment and reclamation system consist of grit removal, screening, flow equalization, primary sedimentation, activated sludge biological treatment with fine pore aeration, nitrification and denitrification (NDN), secondary clarification, coagulation, aqua diamond cloth filtration, disinfection by chlorination with the addition of ammonium hydroxide, and dechlorination.

The treated effluent is directly discharged to the Los Angeles River and via Wildlife Lake, Lake Balboa, Japanese Gardens, Bull Creek, Hayvenhurst Channel and Haskell Channel. DCTWRP is designed to discharge up to 80 MGD into receiving waters and additional outfall structures within the Sepulveda Basin. A portion of the treated effluent is beneficially reused at DCTWRP for irrigation, recreation, and industrial applications. The sludge collected from the primary and secondary treatment process is returned to the collection system via AVORS and conveyed to HWRP for further treatment. The average daily influent flow in 2020 was 39.3 MGD.

Los Angeles-Glendale Water Reclamation Plant

LAGWRP is another upstream water reclamation plant in the HTS. The City of Los Angeles and the City of Glendale jointly own LAGWRP. However, the City is granted sole authority to operate LAGWRP pursuant to the Joint Powers Agreement between the two cities. LAGWRP, a tertiary wastewater treatment plant is located at 4600 Colorado Boulevard, Los Angeles, California. LAGWRP currently receives wastewater from the cities of Glendale, Burbank, Los Angeles, La Cañada Flintridge, and from the Los Angeles Zoo. The

plant has a design capacity of 20 MGD and serves an estimated population of 284,757 people. The average daily influent flow in 2020 was 16.5 MGD.

Hyperion Water Reclamation Plant

HWRP is the main plant in the HTS and is a secondary treatment facility, located at 12000 Vista Del Mar Boulevard, Playa Del Rey, California. HWRP treats domestic, commercial, and industrial wastewater from the entire City (except those areas serviced by the TISA, DCTWRP, LAGWRP, and BWRP) and from a number of cities and agencies under contractual agreements: Beverly Hills, Culver City, Santa Monica, Marina Del Rey, El Segundo, and Los Angeles County. In addition, sludge from DCTWRP, LAGWRP and BWRP is returned to the wastewater collection system and flows to HWRP for treatment. HWRP has a dry-weather design treatment capacity of 450 million gallons per day (MGD) and a wet-weather peak hydraulic capacity of 850 MGD. Due to antidegradation and antibacksliding concerns, the NPDES mass-based effluent limits continue to be based on a 450 MGD design flow rate. The average daily influent flow in 2020 was 251 MGD.

Sewage enters HWRP via five influent outfalls: North Outfall Sewer (NOS), North Outfall Relief Sewer (NORS), North Central Outfall Sewer (NCOS), Central Outfall Sewer (COS), and Coastal Interceptor Sewer (CIS). HWRP's treatment system consists of wastewater treatment and biosolids processing. Wastewater processing involves preliminary, advanced primary and secondary treatment processes. Secondary treatment includes activated sludge biological treatment using high purity oxygen and secondary clarification. Activated sludge consists of microorganisms that consume non-settleable and dissolved organic contaminants which form a settleable floc. Secondary clarification removes the biological floc from the wastewater and the biological floc becomes part of the sludge. The secondary process consists of nine reactor modules each with a design capacity of 50 MGD, a cryogenic facility to produce high purity oxygen, 36 circular clarifiers each with a design capacity of about 30 MGD, and a return activated sludge (RAS) pumping system. After clarification, disinfected secondary effluent is discharged into the Santa Monica Bay through a five-mile submerged outfall pipe. Approximately 36 MGD of the HWRP's secondary effluent is sent to West Basin's Edward C. Little Water Recycling Plant (West Basin Plant) for advanced treatment and reuse. The West Basin Municipal Water District (West Basin) operates the West Basin Plant in El Segundo. West Basin is contractually entitled to receive up to 70 MGD of secondary effluent from HWRP. The West Basin Plant provides tertiary treatment and/or advanced treatment such as microfiltration and reverse osmosis (RO) to HWRP secondary effluent to produce Title 22 and high purity recycled water.

Title 22 recycled water is generated at the West Basin Plant and is used for irrigation, industrial applications including cooling water and boiler feed water, and other purposes. The RO treated recycled water is primarily injected into the West Coast Basin as a barrier to control seawater intrusion. The waste

brine from the West Basin Plant is discharged to the ocean through HWRP's 5-Mile Outfall (Discharge Point 002) via a waste brine line. Although the waste brine is discharged through HWRP's outfall, it is regulated under separate waste discharge requirements and NPDES permit.

Biosolids processing at HWRP involves solid fractions recovered from the wastewater treatment processes. Fine solids comprised of primarily inorganic materials, grit and pretreatment screenings are hauled away to landfills; the remaining solid fractions are anaerobically digested onsite to generate Class A biosolids. Biosolids are screened, dewatered and transported off-site for beneficial reuse at land application and composting sites.

Terminal Island Water Reclamation Plant

TIWRP has a dry weather design capacity of 30 million gallons per day (MGD) and a peak wet weather design capacity of 66 MGD. The average daily influent flow in 2020 was 12.2 MGD.

TIWRP's treatment system consists of wastewater and biosolids processing. Wastewater treatment consists of preliminary treatment, primary sedimentation, activated sludge biological treatment, secondary clarification and tertiary treatment processes. The tertiary treated effluent is discharged to the Los Angeles Harbor. Biosolids processing involves sludge (biosolids) thickening, anaerobic digestion, dewatering, and removal. Since July of 2010, the biosolids have been injected into deep wells as part of the Terminal Island Renewable Energy (TIRE) Project and regulated by the Underground Injection Control Program Permit No. R9UIC-CA5-FY11-3R CA.

Advanced Water Purification Facility

A portion of the tertiary treated effluent is sent to the Advanced Water Purification Facility (AWPF) for further treatment to produce high quality recycled water. The AWPF treatment system consists primarily of microfiltration (MF), reverse osmosis (RO), and disinfection. The AWPF is located inside the TIWRP and operated by the City's LA Sanitation and Environment (LASAN). Microfiltration is used to pretreat the tertiary effluent prior to RO for increased system reliability and reduced RO membrane fouling. The RO process removes salts, minerals, metal ions, organic compounds, and microorganisms. An advanced oxidation unit, using hypochlorous acid (HCLO) and UV light has also been installed. The advanced treated water is blended with potable water and injected into the groundwater basin (Dominguez Gap Barrier Project) as barrier water to control seawater intrusion. The Los Angeles Department of Water and Power (LADWP) is the purveyor of recycled water produced at the AWPF.

2.4 NPDES, Biosolids, Water Recycling Requirements

Donald C. Tillman Water Reclamation Plant

DCTWRP is required to comply with NPDES Permit No. CA0056227, which regulates the discharge of the tertiary treated wastewater to the Los Angeles River. The NPDES discharge limits are contained in the Waste Discharge Requirements (WDR) through Order No. R4-2017-0062, which was adopted by the RWQCB on March 2, 2017 and became effective on May 1, 2017.

DCTWRP is required to comply with Title 22 Water Recycling Requirements (WRR) for its Non-potable Reuse Project contained in Board Order No. R4-2011-0032 amending Board Order No. R4-2007-0009, adopted by the RWQCB and effective on February 3, 2011. The Board Order regulates the use of reclaimed water for irrigation, recreation, and as cooling water.

Los Angeles-Glendale Water Reclamation Plant

NPDES Permit No. CA0053953 regulates the discharge of the tertiary treated wastewater to the Los Angeles River from LAGWRP. The NPDES discharge limits are contained in the Waste Discharge Requirements (WDR) through Order No. R4-2017-0063, which was adopted by the RWQCB on March 2, 2017 and became effective on May 1, 2017.

LAGWRP is also required to comply with Title 22 Water Recycling Requirements (WRR) contained in Board Order No. R4-2007-0007, adopted on January 11, 2007, by the RWQCB, Los Angeles Region, and effective on the same date, which regulates the use of reclaimed water for irrigation, recreation, and as cooling water.

Hyperion Water Reclamation Plant

HWRP is required to comply with NPDES Permit No.CA0109991 which regulates the discharge of the secondary treated wastewater to Santa Monica Bay. The NPDES discharge limits are contained in the Waste Discharge Requirements (WDR) through Order No. R4-2017-0045, which was adopted by the RWQCB on February 2, 2017 and became effective on April 1, 2017. HWRP is also required to comply with the 40 CFR, Part 503 "Standards for the Use or Disposal of Sewage Sludge (Biosolids)" which regulates the land application of biosolids.

All three water reclamation plants' NPDES permits require the City to administer the Industrial Wastewater Pretreatment Program in accordance with 40 CFR, Part 403 "General Pretreatment

Regulation" and to evaluate whether the pretreatment local limits are adequate to meet the respective NPDES and WDR effluent discharge limitations.

Terminal Island Water Reclamation Plant

TIWRP is required to comply with three sets of regulatory requirements. First, NPDES permit No. CA0053856 regulates the discharge of tertiary treated wastewater to the Los Angeles Outer Harbor. The NPDES discharge limits are contained in the Waste Discharge Requirements (WDR) through Order No. R4-2015-0119, which was adopted by the RWQCB and became effective on August 1, 2015.

Second, TIWRP is required to comply with the 40 CFR Part 503, "Standards for the Use or Disposal of Sewage Sludge (Biosolids)," which regulates the land application of biosolids. On July 10, 2010, TIWRP began diverting and directly injecting digested sludge into deep wells as part of the Terminal Island Renewable Energy (TIRE) Project. TIWRP no longer land applies its biosolids; therefore, the biosolids requirements do not apply.

Third, TIWRP is required to comply with Title 22 Recycled Water requirements for its Non-potable Reuse Project. The Water Recycling Requirements (WRR) for the Non-potable Reuse Project, which were adopted on January 30, 2003 through Order No. R4-2003-0025 and are still in effect, the Order permits the use of recycled water covered under the Harbor Water Recycling Project (HWRP) for non-potable applications such as irrigation, industrial, and recreational uses.

Advanced Water Purification Facility

AWPF is required to comply with the Water Recycling Requirements (WRR) for its Dominguez Gap Barrier Project. The WRR for the Dominguez Gap Barrier Project was adopted on October 2, 2003 through Order No. R4-2003-0134, and is still in effect. The WRR permits the injection of up to 5 MGD of advanced treated recycled water as a barrier to prevent seawater intrusion into the groundwater basin. The permit applies to four agencies: City of Los Angeles Department of Water and Power, City of Los Angeles Department of Public Works, Los Angeles County Department of Public Works, and Water Replenishment District of Southern California.

2.5 Goals of Local Limits Evaluation

The City's local limits were established to prevent pass-through, to prevent interference with the efficiency of the treatment processes, to ensure high quality effluent water and exceptional quality of biosolids, and to protect the health and safety of the collection system and treatment plant workers. These limits have proven to protect the City's wastewater collection and treatment systems. However,

the local limits are periodically reviewed as plant conditions are subject to change including the influent characteristics and flow, plant operations, and permit requirements and criteria. This ensures that the limits remain protective, can determine whether the limits should be revised, or if there is a need to develop new limits for pollutants.

2.6 Local Limits Development Guidance Manuals

In July of 2004, EPA issued its latest and most comprehensive document, "Local Limits Development Guidance" (2004 EPA Guidance Manual). The City has relied upon this document for guidance in conducting the evaluation study to determine whether the current local limits are adequate to meet the requirements of the water reclamation plants' NPDES Permits, Water Recycling Requirements, and Biosolids Beneficial Reuse Requirements.

SECTION 3: POC SCREENING METHODOLOGY

The 2004 EPA Guidance Manual recommends that the development or revision of local limits shall be based on the Maximum Allowable Headworks Loading (MAHL) analysis conducted for each pollutant of concern (POC). MAHL is the estimated maximum loading of a pollutant that can be received at a POTW's headworks from all permitted industrial users and other uncontrolled sources without causing pass-through or interference. The MAHL analysis is not conducted on all priority pollutants, but only on each POC. A POC is any pollutant that might reasonably be expected to be discharged to the treatment works in sufficient amounts to cause pass-through or interference, cause problems in its collection system, or jeopardize the health and safety of its workers and the public.

3.1 POTENTIAL POLLUTANTS OF CONCERN

The first step in identifying POCs is to prepare a list of pollutants that are potentially of concern. A list of potential POCs was considered based on select environmental protection criteria: pollutants with known water quality criteria, pollutants with biosolids beneficial reuse requirements, and pollutants that are known to cause operational problems in the plant.

3.2 SCREENING METHODOLOGY

Initial Review of Potential POCs

An initial review of the potential POCs showed that local limits development is not appropriate for some pollutants or parameters; therefore they were excluded from POC screening. Screening analysis was not conducted for turbidity because the source of "turbidity" cannot be controlled. Nitrate and nitrite were excluded because they are added or generated in the plant processes. Loading analysis cannot be conducted for settleable solids and toxicity. These parameters are used to measure plant process efficiency.

In this study, BOD and TSS have been included in the POC screening process as requested by the RWQCB in its letter to the City, dated December 13, 2011. Historically, BOD and TSS have not been included in the POC screening since the sources of these pollutants are mostly domestic dischargers. Additionally, the City has not established local limits for BOD and TSS, but instead uses other measures to control their discharge from industrial sources. Primarily, these constituents are controlled through the City's Surcharge Program. Surcharge fees are imposed for industrial users who discharge wastewater with BOD and TSS concentrations exceeding domestic strength. Fees are calculated based on wastewater strength and volume. This provides a strong incentive for industrial users to control their discharge concentrations to avoid paying excessive surcharge fees.

POC Screening Criteria

The POC screening process involves comparing each potential POC concentration in the plant's influent, effluent, and biosolids with appropriate effluent discharge limitations, water recycling requirements, biosolids beneficial reuse criteria, and the process inhibition criteria. According to the 1987 EPA Guidance Manual, the need to proceed with a headworks loading analysis for a particular pollutant is indicated when:

- The maximum concentration of the pollutant in the POTW's effluent is more than one-half the allowable effluent concentration required meeting water quality criteria/standards;
- The maximum concentration of the pollutant in a grab sample from the POTW's influent is more than one-half the inhibition threshold or the maximum concentration of the pollutant in a 24-hr composite sample from the POTW's influent is more than one-fourth the inhibition threshold;
- HTWRP disposes its biosolids by land application, composting, and well injection at the Terminal Island Renewable Energy (TIRE) project. The pollutants listed in Table 3 of 40 CFR 503.13 are considered a POC and evaluated.
- The concentration of the pollutant in the plant exceeds water quality criteria adjusted through the simple dilution analysis.

If a pollutant level exceeds these reference levels, the POTW should conduct a detailed headworks loading analysis for that pollutant to assess whether a local limit needs to be established.

3.3 HANDLING OF DATA

The following considerations and approaches have been taken to monitor, collect, review, and evaluate the analytical data.

Monitoring and Collection of Data

The monitoring period between January 2020 and December 2020 was considered for this evaluation study.

Outlier Data and Exclusion

Where some analytical test results appear to be inconsistent with the remainder of the data, outlier data was determined using the interquartile range (IQR) as described in the 2004 EPA Guidance Manual Appendix P. Determination of outliers was performed only for pollutants with numeric concentration limits.

Analytical Results Below Detection Levels

Where test results for a certain pollutant are reported as below the method detection level (MDL), simple substitution method is used to estimate the concentration value. Simple substitution method as described in Appendix Q of the 2004 EPA Guidance Manual, requires replacing the below detection value with a surrogate value, such as zero, one-half MDL, or full MDL.

In this study, when a data set contained values above the MDL, one-half MDL was used for the data reported below the MDL. In some cases, the approved MDL is higher than the water quality criteria level. It is also possible for the entire data set to be below the MDL. When this happens, using half-MDL as the concentration value is inappropriate. For example, if half of the MDL is higher than the limit, the pollutant would automatically fail the criteria and be identified as a POC, even though it was never detected. Therefore, when the entire data set, after the removal of outliers, is below the MDL the maximum pollutant concentration should be considered zero.

Testing methods employed by the City are consistent with the approved and acceptable methods specified in the "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, Estuaries of California (SIP), August 2005" and the "2019 California Ocean Plan".

SECTION 4: POC SCREENING RESULTS

Various environmental protection criteria are considered in conducting the POC screening analysis. The following section describes the method and result of the POC screening analysis conducted for each environmental criterion.

4.1 EPA'S POTENTIAL POCs

At a minimum, EPA identified 15 pollutants often found in POTW biosolids and effluent that should be considered potential POCs for screening.

Tables 1, 2, 3 and 4 contain the list of potential POCs, daily maximum influent concentrations, the adjusted applicable water quality criteria, and the results of the screening process for HWRP, DCTWRP, LAGWRP, and TIWRP, respectively. Some pollutants (BOD, TSS, etc.) were not considered in this screening because they were already included in the more stringent NPDES water quality criteria or biosolids reuse criteria. An EPA pollutant is a POC when the concentration of the pollutant in the POTW's influent exceeds adjusted applicable water quality criteria.

Table 1: HWRP POC Screening Results Based on EPA-Recommended Pollutants

Potential POC	Units	Monitoring Period (Jan 2020 - Dec 2020) Influent Daily Max	2019 California Ocean Plan Applicable Water Quality Criteria [2]	2019 California Ocean Plan Adjusted Water Quality Criteria [1]	Result
Ammonia	mg/L	--	Included in the NPDES POC Screening		
Arsenic	ug/L	2.5	32	2688	NOT POC
BOD_5@20°C	mg/L	--	Included in the NPDES POC Screening		
Cadmium	ug/L	1.7	4	336	NOT POC
Chromium	ug/L	78.65	8	672	NOT POC
Copper	ug/L	122	12	1008	NOT POC
Cyanide[4]	ug/L	0	4	336	NOT POC
Lead	ug/L	4.2	8	672	NOT POC
Mercury	ug/L	0.159	0.16	13.44	NOT POC
Molybdenum[3]	ug/L	--	--		
Nickel	ug/L	22.22	20	1680	NOT POC
Selenium	ug/L	2.2	60	5040	NOT POC
Silver	ug/L	0.66	2.8	235.2	NOT POC
Suspended Solids	mg/L	513	Included in the NPDES POC Screening		
Zinc	ug/L	197	80	1680	NOT POC

1 WQC Dilution Credit = 84:1

2 From Table 1 Water Quality Objectives Daily Maximum Limiting Concentrations 2019 California Ocean Plan State Water Resources Control Board California EPA

3 There is no Water Quality Objectives limits or monitoring data for Molybdenum

4 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual)

Table 2: DCTWRP POC Screening Results Based on EPA-Recommended Pollutants

Potential POC	Units	Monitoring Period (Jan 2020 - Dec 2020)	California Toxic Rule[1]		Title 22 Municipal Beneficial Use[2]	Result
		Influent Daily Max	Freshwater Cont. Conc.		MCL	
Ammonia	mg/L	--	Included in the NPDES POC Screening			
Arsenic	ug/L	2.52	150		10	NOT POC
BOD_5@20°C	mg/L	--	Included in the NPDES POC Screening			
Cadmium	ug/L	--	Included in the NPDES POC Screening			
Chromium	ug/L	2.58	191		50	NOT POC
Copper	ug/L	--	Included in the NPDES POC Screening			
Cyanide	ug/L	--	Included in the NPDES POC Screening			
Lead	ug/L	--	Included in the NPDES POC Screening			
Mercury	ug/L	--	Included in the NPDES POC Screening			
Molybdenum[3]	ug/L	--	--			
Nickel	ug/L	5.28	52		100	NOT POC
Selenium	ug/L	1.47	5		50	NOT POC
Silver	ug/L	0.92	--		100	NOT POC
Suspended Solids	mg/L	--	Included in the NPDES POC Screening			
Zinc	ug/L	--	Included in the NPDES POC Screening			

1 California Toxic Rule Water Quality Standards, 40 CFR Part 131, May 18, 2000

2 Maximum Contaminants Levels: Inorganic Chemicals (for MUN beneficial use) Table 64431-A Section 64431 Title 22 California Code of Regulations, February 2013

3 There is no Water Quality Objectives limit or monitoring data for Molybdenum

Table 3: LAGWRP POC Screening Results Based on EPA-Recommended Pollutants

Potential POC	Units	Monitoring Period (Jan 2020 - Dec 2020)	California Toxic Rule[1]	Title 22 Municipal Beneficial Use[2]	Result
		Influent Daily Max	Freshwater Cont. Conc.	MCL	
Ammonia	mg/L	--	Included in the NPDES POC Screening		
Arsenic	ug/L	2.06	150	10	NOT POC
BOD_5@20°C	mg/L	--	Included in the NPDES POC Screening		
Cadmium	ug/L	--	Included in the NPDES POC Screening		
Chromium	ug/L	4.25	191	50	NOT POC
Copper	ug/L	--	Included in the NPDES POC Screening		
Cyanide4	ug/L	--	Included in the NPDES POC Screening		
Lead	ug/L	--	Included in the NPDES POC Screening		
Mercury	ug/L	--	Included in the NPDES POC Screening		
Molybdenum[3]	ug/L	--	--		
Nickel	ug/L	7.5	52	100	NOT POC
Selenium	ug/L	2.34	5	50	NOT POC
Silver	ug/L	2.01	--	100	NOT POC
Suspended Solids	mg/L	--	Included in the NPDES POC Screening		
Zinc	ug/L	--	Included in the NPDES POC Screening		

1 California Toxic Rule Water Quality Standards, 40 CFR Part 131, May 18, 2000

2 Maximum Contaminants Levels: Inorganic Chemicals (for MUN beneficial use) Table 64431-A of Section 64431 of Title 22 California Code of Regulations February 2013

3 There is no Water Quality Objectives limit or monitoring data for Molybdenum

Table 4: TIWRP POC Screening Results Based on EPA-Recommended Pollutants

Potential POC	Units	Monitoring Period (Jan 2020 - Dec 2020)	2019 California Ocean Plan		Result
		Influent Daily Max	Applicable Water Quality Criteria [2]	Adjusted Water Quality Criteria [1]	
Ammonia	mg/L	--	Included in the NPDES POC Screening		
Arsenic	ug/L	4.39	32	2080	NOT POC
BOD_5@20°C	mg/L	--	Included in the NPDES POC Screening		
Cadmium[4]	ug/L	0	4	260	NOT POC
Chromium	ug/L	5.02	8	520	NOT POC
Copper	ug/L	--	Included in the NPDES POC Screening		
Cyanide	ug/L	0.011	4	260	NOT POC
Lead	ug/L	1.48	8	250	NOT POC
Mercury[4]	ug/L	0	0.16	10.4	NOT POC
Molybdenum[3]	ug/L	--	--		
Nickel	ug/L	14.5	20	1300	NOT POC
Selenium	ug/L	12.9	60	3900	NOT POC
Silver[4]	ug/L	0	2.8	582	NOT POC
Suspended Solids	mg/L	--	Included in the NPDES POC Screening		
Zinc	ug/L	149	80	5200	NOT POC

1 WQC Dilution Credit = 65

2 From Table 1 Water Quality Objectives Daily Maximum Limiting Concentrations 2019 California Ocean Plan State Water Resources Control Board California EPA

3 There is no Water Quality Objectives limits or monitoring data for Molybdenum

4 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual)

4.2 WATER QUALITY CRITERIA

Receiving water quality criteria are among the environmental protection criteria used in identifying potential POCs in the screening analysis. The water quality criteria used in this part of screening are the DCTWRP and LAGWRP NPDES discharge limits and recycled water WDR limits, HWRP NPDES discharge limits, TIWRP's NPDES effluent discharge limits, and AWPF's WRR limits included in NPDES Permit No. CA0053856.

NPDES Water Quality Criteria

Tables 5A-B, 6A-B, 7A-B, and 8A-B below contain the list of potential POCs, the maximum influent and effluent concentrations, the corresponding WDR and NPDES discharge limits, and the results of the screening process for HWRP, DCTWRP, LAGWRP, and TIWRP respectively. When a potential POC does not meet the screening criteria, a detailed loading analysis should be conducted to determine if a local limit should be established for the pollutant.

Table 5A: HWRP POC Screening Results Based on NPDES Water Quality Criteria – Influent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Influent				NPDES Discharge Limitations				Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Instant Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Instant Max.	Influent
Ammonia as N	mg/L	45	--	45	45	58	--	233	582	NOT POC
BOD_5@20°C	mg/L	443	461	--	--	30	45	--	--	POC
DDT[1]	µg/L	0	--	--	--	0.0101	--	--	--	NOT POC
Oil and Grease	mg/L	58	69	--	69	25	40	--	75	POC
PCBs (Total)[1]	µg/L	0	--	--	--	0.000271	--	--	--	NOT POC
TSS	mg/L	384	402	--	--	30	45	--	--	POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual)

Table 5B: HWRP POC Screening Results Based on NPDES Water Quality Criteria – Effluent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Effluent				NPDES 1/2 Discharge Limitations				Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Instant Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Instant Max.	Effluent
Ammonia as N	mg/L	49	--	49	49	29	--	116.5	291	POC
BOD_5@20°	mg/L	24	27	--	--	15	22.5	--	--	POC
DDT[1]	µg/L	0	--	--	--	0.00505	--	--	--	NOT POC
Oil and Grease [1]	mg/L	0	0	--	0	12.5	20	--	37.5	NOT POC
PCBs (Total)[1]	µg/L	0	--	--	--	0.0001355	--	--	--	NOT POC
TSS	mg/L	20	22	--	--	15	22.5	--	--	POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual)

Table 6A: DCTWRP POC Screening Results Based on NPDES Water Quality Criteria – Influent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Influent				NPDES Discharge Limitations				Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Instant Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Instant Max.	Influent
Ammonia (as N)	mg/L	47.4	--	53	--	3	--	6.4	--	POC
BOD_5@20°C	mg/L	321.5	321.41	479	--	20	30	45	--	POC
Cadmium (wet-weather)	µg/L	1.54	--	2.74	--	2.1	--	6.9	--	NOT POC
Chloride	mg/L	97	--	--	--	190	--	--	--	NOT POC
Copper (year round)	µg/L	124	--	167	--	27	--	31	--	POC
Cyanide[1]	µg/L	0	--	0	--	4.3	--	8.5	--	NOT POC
Dibenzo(a,h) Anthracene	µg/L	0.04	--	0.15	--	0.024	--	0.049	--	POC
Heptachlor [1]	µg/L	0	--	0	--	0.00011	--	0.0002	--	NOT POC
Indeno(1,2,3-cd) Pyrene [1]	µg/L	0	--	0	--	0.024	--	0.049	--	NOT POC
Lead (year round)	µg/L	1.26	--	1.53	--	8.4	--	16	--	NOT POC
MBAS	mg/L	7.17	--	--	--	0.5	--	--	--	POC
Oil and Grease	mg/L	67.8	--	82	--	10	--	15	--	POC
Selenium	µg/L	1.2	--	1.47	--	4	--	8.7	--	NOT POC
Sulfate	mg/L	71.41	--	--	--	300	--	--	--	NOT POC
TDS	mg/L	578	--	--	--	950	--	--	--	NOT POC
TSS	mg/L	285	247	652	--	15	40	45	--	POC
Zinc (wet-weather)	µg/L	168	--	199	--	205	--	236	--	NOT POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual)

Table 6B: DCTWRP POC Screening Results Based on NPDES Water Quality Criteria – Effluent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Effluent				NPDES 1/2 Discharge Limitations				Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Instant Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Instant Max.	Effluent
Ammonia (as N)	mg/L	1.79	--	2.95	--	1.5	--	3.2	--	POC
BOD5@20C	mg/L	3.61	3.6	10	--	10	15	22.5	--	NOT POC
Cadmium (wet weather)	µg/L	0.36	--	0.74	--	1.05	--	3.45	--	NOT POC
Chloride	mg/L	118	--	--	--	95	--	--	--	POC
Copper (year round)	µg/L	10	--	16.9	--	13.5	--	15.5	--	POC
Cyanide	µg/L	0.001	--	0.004	--	2.15	--	4.25	--	NOT POC
Dibenzo(a,h) Anthracene [1]	µg/L	0	--	0	--	0.012	--	0.0245	--	NOT POC
Heptachlor [1]	µg/L	0	--	0	--	0.000055	--	0.0001	--	NOT POC
Indeno(1,2,3-cd) Pyrene	µg/L	0.006	--	0.42	--	0.012	--	0.0245	--	POC
Lead (year round)	µg/L	0.43	--	1.13	--	4.2	--	8	--	NOT POC
MBAS	mg/L	0.11	--	--	--	0.25	--	--	--	NOT POC
Oil and Grease	mg/L	0.89	--	2	--	5	--	7.5	--	NOT POC
Selenium	µg/L	0.64	--	0.85	--	2	--	4.35	--	NOT POC
Sulfate	mg/L	95	--	--	--	150	--	--	--	NOT POC
Total Dissolved Solids	mg/L	529	--	--	--	475	--	--	--	POC
TSS	mg/L	1.52	1	12	--	7.5	20	22.5	--	NOT POC
Zinc (wet weather)	µg/L	82	--	112	--	102.5	--	118	--	NOT POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual)

Table 7A: LAGWRP POC Screening Results Based on NPDES Water Quality Criteria – Influent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Influent			NPDES Discharge Limitations			Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Influent
Ammonia (as N)	mg/L	37.57	--	49.8	3.7	--	5.7	POC
Bis(2-Ethylhexyl) phthalate	µg/L	0.00927	--	--	4	--	--	NOT POC
BOD_5@20°C	mg/L	1164.41	1162.2	2650	20	30	45	POC
Cadmium (wet-weather)	µg/L	0.62	--	1.04	2.8	--	8.9	NOT POC
Chloride	mg/L	129	--	--	190	--	--	NOT POC
Copper (year round)	µg/L	0.084	--	0.094	24	--	34	NOT POC
Cyanide [1]	µg/L	0	--	0	4.3	--	8.5	NOT POC
Diazinon [1]	µg/L	0	--	--	0.04	--	0.08	NOT POC
Dibenzo(a,h) Anthracene	µg/L	0.18	--	--	0.049	--	0.098	POC
Dieldrin [1]	µg/L	0	--	0	0.00014	--	0.00028	NOT POC
Lead (year round)	µg/L	0.00159	--	0.00183	10	--	18	NOT POC
MBAS	mg/L	5.7	--	6.67	0.5	--	--	POC
Oil and Grease	mg/L	51.25	--	67	10	--	15	POC
Sulfate	mg/L	131.7	--	--	300	--	--	NOT POC
TDS	mg/L	744	--	808	950	--	--	NOT POC
TSS	mg/L	844	846.57	3040	15	40	45	POC
Zinc (wet-weather)	µg/L	0.198	--	0.238	241	--	295	NOT POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual)

Table 7B: LAGWRP POC Screening Results Based on NPDES Water Quality Criteria – Effluent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Effluent			NPDES 1/2 Discharge Limitations			Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Effluent
Ammonia (as N)	mg/L	1.54	--	2.3	1.85	--	2.85	NOT POC
Bis(2-Ethylhexyl) phthalate	µg/L	0.66	--	1.09	2	--	--	NOT POC
BOD_5@20°C	mg/L	1.64	1.59	10	10	15	22.5	NOT POC
Cadmium (wet-weather)	µg/L	0.152	--	0.23	1.4	--	4.45	NOT POC
Chloride	mg/L	143	--	--	95	--	--	POC
Copper (year round)	µg/L	0.006	--	0.013	12	--	17	NOT POC
Cyanide [1]	µg/L	0	--	0	2.15	--	4.25	NOT POC
Diazinon [1]	µg/L	0	--	--	0.02	--	0.04	NOT POC
Dibenzo(a,h) Anthracene [1]	µg/L	0	--	--	0.0245	--	0.049	NOT POC
Dieldrin [1]	µg/L	0	--	0	0.00007	--	0.00014	NOT POC
Lead (year round)	µg/L	0.00024	--	0.00031	5	--	9	NOT POC
MBAS	mg/L	0.09	--	--	0.25	--	--	NOT POC
Oil and Grease	mg/L	1	--	1	5	--	7.5	NOT POC
Sulfate	mg/L	176	--		150	--	--	POC
TDS	mg/L	710	--	--	475	--	--	POC
TSS	mg/L	2	0.25	14	7.5	20	22.5	NOT POC
Zinc (wet-weather)	µg/L	0.051	--	0.059	120.5	--	148	NOT POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual)

Table 8A: TIWRP POC Screening Results Based on NPDES Water Quality Criteria – Influent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Influent			NPDES Discharge Limitations			Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Influent
2,3,7,8-TCDD (Dioxin)	pg/L	0	--	0	0.014	--	0.027	NOT POC
Ammonia (as N)	mg/L	24.9	--	63.4	26	--	81	NOT POC
BOD_5@20°C	mg/L	293	339	530	15	30	40	POC
Copper	µg/L	0.0416	--	0.0416	94	--	210	NOT POC
Cyanide	µg/L	0.000011	--	0.000011	9.5	--	19	NOT POC
MBAS	mg/L	0.007	--	--	31	--	--	NOT POC
Oil and Grease [1]	mg/L	40.0	--	80	10	--	15	POC
TSS	mg/L	242	459.0	1600	15	30	40	POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual)

Table 8B: TIWRP POC Screening Results Based on NPDES Water Quality Criteria – Effluent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Effluent			NPDES 1/2 Discharge Limitations			Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Influent
2,3,7,8-TCDD (Dioxin)[1]	pg/L	0	--	0	0.007	--	0.0135	NOT POC
Ammonia (as N)	mg/L	0.02	--	0.02	13	--	40.5	NOT POC
BOD_5@20°C	mg/L	9.15	14.40	17	7.5	15	20	POC
Copper	µg/L	0.0398	--	0.0398	47	--	105	NOT POC
Cyanide[1]	µg/L	0.000007	--	0.000007	4.75	--	9.5	NOT POC
MBAS	mg/L	0.00062	--	--	15.5	--	--	NOT POC
Oil and Grease [1]	mg/L	0.004	--	0.004	5	--	7.5	NOT POC
TSS	mg/L	1.75	1.54	3.6	7.5	15	20	NOT POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual).

Water Recycling Criteria

Water Recycling Criteria is another water quality criterion used in identifying potential POCs in the screening analysis. The Water Recycling Criteria used in this screening is the recycled water discharge limits included in the DCTWRP and LAGWRP WDR permits and in the Dominguez Gap Barrier Project's WRR permit.

A pollutant is a POC with regards to the Water Recycling Requirements Criteria when its maximum effluent concentration is more than its WRR permit limit.

Tables 9A-B and 10A-B below contain the list of potential POCs, maximum influent and effluent concentrations, WDR limits, and the results of the screening process.

At TIWRP, the delivered water for injection in the barrier is a blend of potable water and recycled water (AWPF effluent). WRR requirements include mineral constituent concentration limits imposed on this blended water.

Table 9A: DCTWRP POC Screening Results Based on WDR Recycled Water Quality Criteria – Influent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Influent			WDR Discharge Limitations			Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Influent
BOD_5@20°C	mg/L	321.5	321.41	--	20	30	--	POC
Boron	mg/L	--	--	--	--	--	1.5	NOT POC
Chloride	mg/L	--	--	117	--	--	190	NOT POC
Oil and Grease	mg/L	67.8	--	82	10	--	15	POC
Sulfate	mg/L	--	--	95.8	--	--	300	NOT POC
TDS	mg/L	--	--	612	--	--	800	NOT POC
TSS	mg/L	285	247	--	15	45	--	POC

Table 9B: DCTWRP POC Screening Results Based on WDR Recycled Water Quality Criteria – Effluent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Effluent			WDR 1/2 Discharge Limitations			Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Effluent
BOD_5@20°C	mg/L	3.61	3.6	--	10	15	--	NOT POC
Boron	mg/L	--	--	0.64	--	--	0.75	NOT POC
Chloride	mg/L	--	--	131	--	--	95	POC
Oil and Grease	mg/L	0.89	--	2	5	--	7.5	NOT POC
Sulfate	mg/L	--	--	110	--	--	150	NOT POC
TDS	mg/L	--	--	562	--	--	400	POC
TSS	mg/L	1.52	1	--	7.5	22.5	--	NOT POC

Table 10A: LAGWRP POC Screening Results Based on WDR Recycled Water Quality Criteria – Influent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Influent			WDR Discharge Limitations			Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Influent
BOD_5@20°C	mg/L	1164.41	1162.2	2650	20	--	60	POC
Boron	mg/L	--	--	--	--	--	1.5	NOT POC
Chloride	mg/L	--	--	143	--	--	190	NOT POC
Oil and Grease	mg/L	51.25	--	67	10	--	15	POC
Sulfate	mg/L	--	--	174	--	--	300	NOT POC
TDS	mg/L	--	--	808	--	--	900	NOT POC
TSS	mg/L	844	--	3040	15	--	40	POC

Table 10B: LAGWRP POC Screening Results Based on WDR Recycled Water Quality Criteria – Effluent Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration Effluent			WDR 1/2 Discharge Limitations			Result
		Monthly Avg.	Weekly Avg.	Daily Max.	Monthly Avg.	Weekly Avg.	Daily Max.	Effluent
BOD_5@20°C	mg/L	1.64	1.59	10	10	--	30	NOT POC
Boron	mg/L	--	--	0.37	--	--	0.75	NOT POC
Chloride	mg/L	--	--	154	--	--	95	POC
Oil and Grease	mg/L	1	--	1	5	--	7.5	NOT POC
Sulfate	mg/L	--	--	214	--	--	150	POC
TDS	mg/L	--	--	760	--	--	450	POC
TSS	mg/L	2	--	14	7.5	--	20	NOT POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual).

WRR Mineral Constituents Requirements

The delivered water for injection in the barrier is a blend of potable water and recycled water (AWPF effluent). WRR requirements include mineral constituent concentration limits imposed on this blended water.

Table 11 includes the regulated pollutant concentration limits in the "recycled water injected into the Barrier" (blended water), compared to the maximum observed concentrations of these pollutants. The results of the screening process are also included.

Table 11: TIWRP-AWPF POC Screening Results Based on WRR – Mineral Constituent Requirement

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Blended Water	WDR Discharge Limitations			Result
			Limit Type	Limitation	½ Limitation	Effluent
Boron	mg/L	1.33	Effluent Daily Max.	1.5	0.75	POC
Chloride	mg/L	178	Effluent Daily Max.	250	125	POC
Sulfate	mg/L	120	Effluent Daily Max.	250	125	NOT POC
TDS	mg/L	464	Effluent Daily Max.	800	400	POC

The WRR permit also includes specific pollutant concentration limits for Total Organic Carbon, Total Nitrogen, Lead, and Copper for recycled water. Table 12 includes these limits and observed maximum concentrations in recycled water.

Table 12: TIWRP-AWPF POC Screening Results Based on WRR – Recycled Water Quality Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020)	Harbor Water Recycling Requirements			Result
		AWPF Effluent	Limit Type	Limitation	½ Limitation	Effluent
Copper	mg/L	0.00334	Effluent Daily Max.	1	0.5	NOT POC
Lead	mg/L	0.00018	Effluent Daily Max.	0.015	0.0075	NOT POC
Total Nitrogen	mg/L	0.12	Effluent Weekly Ave.	5	2.5	NOT POC
Total Organic Carbon	mg/L	0.48	Effluent 20 Wk. Ave.	1	0.5	NOT POC

Further, there are maximum BOD and Total Suspended Solids influent concentration levels at AWPF. These limits apply to TIWRP tertiary treated water entering AWPF. Table 13 includes these limits and observed maximum concentrations in the AWPF Influent.

Table 13: TIWRP-AWPF POC Screening Results Based on WRR – Recycled Water Quality Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020)	Harbor Water Recycling Requirements			Result
		AWPF Influent	Limit Type	Limitation	½ Limitation	Effluent
BOD	mg/L	0.012	Influent Monthly Ave.	15	7.5	NOT POC
TSS	mg/L	0.028	Influent Monthly Ave.	15	7.5	NOT POC

WRR Drinking Water Standards

As part of the WRR permit, pollutants listed in the drinking water standards established by the California Code of Regulations (CCR) Title 22 were also included in the screening. Table 14 contains the Maximum Contaminant Levels (MCL) for drinking water standards established in the CCR. The maximum observed concentrations of the selected pollutants in the recycled water, and the results of the screening process are also included.

Table 14: TIWRP-AWPF POC Screening Results Based on WRR – Drinking Water Standards

Pollutants	Units	Monitoring Period (Jan 2020 - Dec 2020) AWPF Effluent Max	Drinking Water Standard MCL	Drinking Water Standard 1/2 MCL	Result
Inorganic Chemicals					
Aluminum	mg/L	0.00667	1	0.5	NOT POC
Antimony	ug/L	0	0.006	0.003	NOT POC
Arsenic	mg/L	0.0001	0.01	0.005	NOT POC
Asbestos	MFL	0	7	3.5	NOT POC
Barium	mg/L	0.00395	1	0.5	NOT POC
Beryllium	mg/L	0.0001	0.004	0.002	NOT POC
Cadmium	mg/L	0	0.005	0.0025	NOT POC
Chromium	mg/L	0.00223	0.05	0.025	NOT POC
Cyanide	mg/L	0	0.15	0.075	NOT POC
Fluoride	mg/L	0.00004	2	1	NOT POC
Lead	mg/L	0.00018	0.015	0.0075	NOT POC
Mercury	mg/L	0	0.002	0.001	NOT POC
Nickel	mg/L	0.00451	0.1	0.05	NOT POC
Nitrate (NO3)	mg/L	0	45	22.5	NOT POC
Nitrate+Nitrite(N)	mg/L	0	10	5	NOT POC

Nitrite (N)	mg/L	0	1	0.5	NOT POC
Perchlorate	mg/L	0	0.006	0.003	NOT POC
Selenium	mg/L	0.00043	0.05	0.025	NOT POC
Thallium	mg/L	0.00049	0.002	0.001	NOT POC
Volatile Organic Chemicals					
Benzene	mg/L	0	0.001	0.0005	NOT POC
Carbon Tetrachloride (CTC)	mg/L	0.00013	0.0005	0.00025	NOT POC
1,2-Dichlorobenzene	mg/L	0	0.6	0.3	NOT POC
1,4-Dichlorobenzene	mg/L	0	0.005	0.0025	NOT POC
1,1-Dichloroethane	mg/L	0	0.005	0.0025	NOT POC
1,2-Dichloroethane (1,2-DCA)	mg/L	0	0.0005	0.00025	NOT POC
1,1-Dichloroethene (1,1-DCE)	mg/L	0	0.006	0.003	NOT POC
Cis-1,2-Dichloroethylene	mg/L	0	0.006	0.003	NOT POC
Trans-1,2-Dichloroethylene	mg/L	0	0.01	0.005	NOT POC
Dichloromethane	mg/L	0	0.005	0.0025	NOT POC
1,2-Dichloropropane	mg/L	0	0.005	0.0025	NOT POC
1,3-Dichloropropene	mg/L	0	0.0005	0.00025	NOT POC
Ethylbenzene	mg/L	0	0.3	0.15	NOT POC
Methyl-tert-butyl-ether (MTBE)	mg/L	0	0.013	0.0065	NOT POC
Monochlorobenzene	mg/L	0	0.07	0.035	NOT POC
Styrene	mg/L	0	0.1	0.05	NOT POC
1,1,2,2-Tetrachloroethane	mg/L	0	0.001	0.0005	NOT POC
Tetrachloroethylene	mg/L	0	0.005	0.0025	NOT POC
Toluene	mg/L	0	0.15	0.075	NOT POC
1,2,4-Trichlorobenzene	mg/L	0	0.005	0.0025	NOT POC
1,1,1-Trichloroethane	mg/L	0	0.2	0.1	NOT POC
1,1,2-Trichloroethane	mg/L	0	0.005	0.0025	NOT POC
Trichloroethylene (TCE)	mg/L	0	0.005	0.0025	NOT POC

Trichlorofluoromethane	mg/L	0	0.15	0.075	NOT POC
1,1,2-Trichloro-1,2,2,Trifluoroethane	mg/L	0	1.2	0.6	NOT POC
Vinyl Chloride	mg/L	0	0.0005	0.00025	NOT POC
Xylenes (m,p)	mg/L	0	1.75g	0.875	NOT POC
Non-Volatile Organic Chemicals					
Alachlor	mg/L	0	0.002	0.001	NOT POC
Atrazine	mg/L	0	0.001	0.0005	NOT POC
Bentazon	mg/L	0	0.018	0.009	NOT POC
Benzo(a)pyrene	mg/L	0	0.0002	0.0001	NOT POC
Bis(2-ethylhexyl)phthalate	mg/L	0	0.004	0.002	NOT POC
Carbofuran	mg/L	0	0.018	0.009	NOT POC
Chlordane	mg/L	0	0.0001	0.00005	NOT POC
2,4-D	mg/L	0	0.07	0.035	NOT POC
Dalapon	mg/L	0	0.2	0.1	NOT POC
1,2-Dibromo-chloropropane(DBCP)	mg/L	0	0.0002	0.0001	NOT POC
Di(2-ethylhexyl)adipate	mg/L	0	0.4	0.2	NOT POC
Dinoseb	mg/L	0	0.007	0.0035	NOT POC
Diquat	mg/L	0	0.02	0.01	NOT POC
Endothall	mg/L	0	0.1	0.05	NOT POC
Endrin	mg/L	0	0.002	0.001	NOT POC
Ethylene Dibromide (EDB)	mg/L	0	0.00005	2.50E-05	NOT POC
Glyphosate	mg/L	0	0.7	0.35	NOT POC
Heptachlor	mg/L	0	0.00001	5.00E-06	NOT POC
Heptachlor Epoxide	mg/L	0	0.00001	5.00E-06	NOT POC
Hexachlorobenzene	mg/L	0.0000144	0.001	0.0005	NOT POC
Hexachlorocyclopentadiene	mg/L	0	0.05	0.025	NOT POC
Lindane	mg/L	0	0.0002	0.0001	NOT POC
Methoxychlor	mg/L	0	0.03	0.015	NOT POC

Molinate	mg/L	0	0.02	0.01	NOT POC
Oxamyl	mg/L	0	0.05	0.025	NOT POC
Pentachlorophenol	mg/L	0	0.001	0.0005	NOT POC
Picloram	mg/L	0	0.5	0.25	NOT POC
Polychlorinated Biphenyls (PCBs)	mg/L	0	0.0005	0.00025	NOT POC
Simazine	mg/L	0	0.004	0.002	NOT POC
Thiobencarb	mg/L	0	0.07	0.035	NOT POC
Toxaphene	mg/L	0	0.003	0.0015	NOT POC
2,3,7,8-TCDD (Dioxin)	mg/L	0	0.00000003	1.50E-08	NOT POC
2,4,5-TP (Silvex)	mg/L	0	0.05	0.025	NOT POC
Disinfection Byproducts					
Total Trihalomethanes (TTHM)	mg/L	0	0.08	0.04	NOT POC
Bromodichloromethane	mg/L	0.00173			NOT POC
Bromoform	mg/L	0.00191			NOT POC
Chloroform	mg/L	0.00114			NOT POC
Dibromochloromethane	mg/L	0.00302			NOT POC
Haloacetic acid (five) (HAA5)	mg/L	0	0.06	0.03	NOT POC
Monochloroacetic acid	mg/L	0			NOT POC
Dichloroacetic acid	mg/L	0.00013			NOT POC
Trichloroacetic acid	mg/L	0.00027			NOT POC
Monoabromoacetic acid	mg/L	0.00016			NOT POC
Dibromoacetic acid	mg/L	0.00074			NOT POC
Bromate	mg/L	0.00172	0.01	0.005	NOT POC
Chlorite	mg/L	0	1	0.5	NOT POC
Radioactivity					
Combined Radium 226,228	pCi/L	0.000001773	5	2.5	NOT POC
Gross Alpha Particle	pCi/L	0.00883	15	7.5	NOT POC
Tritium	pCi/L	0.000814	20000	10000	NOT POC

Strontium 90	pCi/L	0.000000339	8	4	NOT POC
Gross Beta Particle	pCi/L	0.0051	50	25	NOT POC
Uranium	pCi/L	0.00503	20	10	NOT POC
Contaminants with Secondary MCL's Consumer Acceptance Limits					
Aluminum	mg/L	0.00667	0.2	0.1	NOT POC
Copper	mg/L	0.00334	1	0.5	NOT POC
Color	units	0	15	7.5	NOT POC
Corrosivity	--	0	Non-corrosive	Non-corrosive	NOT POC
Foam Agents (MBAS)	mg/L	0.00004	0.5	0.25	NOT POC
Iron	mg/L	0.000019	0.3	0.15	NOT POC
Manganese	mg/L	0.00268	0.05	0.025	NOT POC
Methyl-tert-butyl-ether (MTBE)	mg/L	0	0.005	0.0025	NOT POC
Thiobencarb	mg/L	0	0.001	0.0005	NOT POC
Turbidity	NTU	0	5	2.5	NOT POC
Silver	mg/L	0.000219	0.1	0.05	NOT POC
Zinc	mg/L	0.00596	5	2.5	NOT POC

4.3 BIOSOLIDS BENEFICIAL REUSE CRITERIA

Another environmental protection criterion used in identifying potential POCs in the screening analysis is the applicable biosolids disposal or beneficial reuse regulations. The Biosolids Beneficial Reuse Criteria used in this screening are found in 40 CFR 503 "Standards for the Use or Disposal of Sewage Sludge (Biosolids)". Hyperion Water Reclamation Plant and Terminal Island Water Reclamation Plant are the two plants with biosolids processing capabilities. TIWRP injects its digested sludge into deep wells as part of the Terminal Island Renewable Energy (TIRE) Project. TIWRP no longer land applies its biosolids; therefore, the biosolids requirements do not apply.

Table 15 contains the list of POCs, biosolids concentrations, and biosolids beneficial reuse requirements.

Table 15: HWRP POCs Based on Biosolids Beneficial Reuse Criteria

Potential POC	Monitoring Period (Jan 2020 - Dec 2020) Maximum Concentration		Unrestricted Biosolids (Use Criteria 40 CFR 503.13 Table 3)			Result	
	Influent	Biosolids					
	Monthly Avg. (µg/L)	Monthly Avg. (mg/kg, dry wt)	Monthly Avg. (mg/kg, dry wt)	1/2 Monthly Avg. (mg/kg, dry wt)	1/500 Monthly Avg. (µg/L)[1]	Influent	Biosolids
Arsenic *	2.5	0	41	20.5	22	NOT POC	NOT POC
Cadmium	1.68	4.37	39	19.5	20.9	NOT POC	NOT POC
Copper	122	224	1500	750	803	NOT POC	NOT POC
Lead	4.2	6.31	300	150	161	NOT POC	NOT POC
Mercury	0.159	0.318	17	8.5	9.1	NOT POC	NOT POC
Molybdenum	--	4.94	75 2	37.5	40.2	NOT POC	NOT POC
Nickel	22.22	15.1	420	210	225	NOT POC	NOT POC
Selenium	2.2	0	100	50	53.5	NOT POC	NOT POC
Zinc	197	318	2800	1400	1499	NOT POC	NOT POC

1 Ceiling concentration from 40 CFR 503.13 Table 1

* The whole data set, after removal of outliers, if any, is < MDL, they are recorded as 0 for POC determination (per appendix Q of the 2004 EPA Guidance Manual).

4.4 BIOLOGICAL PROCESS INHIBITION THRESHOLD LEVELS

Pollutants that are known to cause operational and maintenance problems in the plant are considered as potential POCs. Since HWRP, DCTWRP, LAGWRP, and TIWRP do not have recorded process inhibition levels, the biological process inhibition levels found in literature for activated sludge, nitrification, and anaerobic sludge digestion processes were used in this screening. These pollutants and their inhibition threshold levels are found in Appendix G of the 2004 Guidance Manual.

Tables 17, 18, 19, and 20 below contain the list of potential POCs, the maximum influent concentrations, Biological Process Inhibition Threshold Levels, and the results of the screening process for HWRP, DCTWRP, LAGWRP, and TIWRP respectively.

According to the Biological Process Inhibition Threshold Criteria a pollutant is a POC when its maximum influent concentration in a grab sample of is more than one-half the inhibition threshold level or the maximum influent concentration of the pollutant in a 24-hour composite sample is more than one-fourth the inhibition threshold. For the purpose of this screening, the more stringent one-fourth inhibition threshold was used.

Table 17: HWRP POC Screening Results Based on Biological Process Inhibition Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Influent Concentration	1/4 Inhibition Value (EPA 2004 Guidance Manual) (Appendix G) Activated Sludge	Nitrification	Result
1,2-Dichlorobenzene [1]	mg/L	0	1.25	0.0575	NOT POC
1,2-Diphenylhydrazine(Azobenzene) [1]	mg/L	0	1.25	--	NOT POC
1,3-Dichlorobenzene [1]	mg/L	0	1.25	--	NOT POC
1,4-Dichlorobenzene [1]	mg/L	0	1.25	0.35	NOT POC
2,4,6 Trichlorophenol [1]	mg/L	0	12.5	--	NOT POC
2,4-Dichlorophenol [1]	mg/L	0	16	--	NOT POC
2,4-Dimethylphenol [1]	mg/L	0	10	--	NOT POC
2,4-Dinitrotoluene [1]	mg/L	0	1.25	--	NOT POC
2-Chlorophenol [1]	mg/L	0	1.25	--	NOT POC
Acrylonitrile [1]	mg/L	0	--	1.25	NOT POC
Ammonia-Nitrogen	mg/L	49	120	375	NOT POC
Anthracene [1]	mg/L	0	125	--	NOT POC
Arsenic	mg/L	0.0025	0.025	0.4	NOT POC
Benzene [1]	mg/L	0	25	--	NOT POC
Cadmium	mg/L	0.00168	0.25	5	NOT POC
Carbon Tetrachloride [1]	mg/L	0	--	0.5	NOT POC
Chlorobenzene [1]	mg/L	0	--	0.24	NOT POC
Choloroform [1]	mg/L	0	--	0.25	NOT POC
Chromium (III)	mg/L	0.07865	2.5	33	NOT POC
Chromium (Total)	mg/L	0.07865	0.25	33	NOT POC
Chromium (VI) [1]	mg/L	0	0.25	28	NOT POC

Copper	mg/L	0.122	0.25	10	NOT POC
Cyanide [1]	mg/L	0	0.025	0.25	NOT POC
Ehtylbenzene[1]	mg/L	0	50	--	NOT POC
Hexachlorobenzene [1]	mg/L	0	1.25	--	NOT POC
Iodine	mg/L	--	2.5	--	NOT POC
Lead	mg/L	0.0042	0.25	85	NOT POC
Mercury	mg/L	0.000159	0.025	--	NOT POC
Methyl chloride (Chloromethane) [1]	mg/L	0	--	0.825	NOT POC
Naphthalene	mg/L	0.000264	125	--	NOT POC
Nickel	mg/L	0.02222	0.25	3	NOT POC
Nitrobenzene [1]	mg/L	0	7.5	--	NOT POC
Pentachlorophenol [1]	mg/L	0	0.2375	0.05	NOT POC
Phenanthrene	mg/L	0.00011	125	--	NOT POC
Phenol	mg/L	0.04705	12.5	--	NOT POC
Silver	mg/L	0.00066	--	3.25	NOT POC
Sulfide	mg/L	--	6.25	12.5	NOT POC
Surfactants	mg/L	--	25	--	NOT POC
Tetrachloroethylene[1]	mg/L	0	--	5	NOT POC
Toluene[1]	mg/L	0	50	--	NOT POC
Trichloroethylene (Trichloroethene) [1]	mg/L	0	--	0.25	NOT POC
Zinc	mg/L	0.197	1.25	100	NOT POC

[1] When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual).

Table 18: DCTWRP POC Screening Results Based on Biological Process Inhibition Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Influent Concentration	1/4 Inhibition Value (EPA 2004 Guidance Manual) (Appendix G) Activated Sludge	Nitrification	Result
1,2-Dichlorobenzene [1]	mg/L	0	1.25	--	NOT POC
1,3-Dichlorobenzene [1]	mg/L	0	1.25	--	NOT POC
1,4-Dichlorobenzene [1]	mg/L	0	1.25	--	NOT POC
2,4,6 Trichlorophenol [1]	mg/L	0	12.5	--	NOT POC
2,4-Dichlorophenol [1]	mg/L	0	16	16	NOT POC
2,4-Dimethylphenol [1]	mg/L	0	10	--	NOT POC
2,4-Dinitrophenol [1]	mg/L	0	--	37.5	NOT POC
2,4-Dinitrotoluene [1]	mg/L	0	1.25	--	NOT POC
2-Chlorophenol [1]	mg/L	0	1.25	--	NOT POC
Ammonia-Nitrogen	mg/L	53	120	--	NOT POC
Anthracene	mg/L	0.00015	125	--	NOT POC
Arsenic	mg/L	0.00252	0.025	0.375	NOT POC
Azobenzene [1]	mg/L	0	1.25	--	NOT POC
Benzene [1]	mg/L	0	25	--	NOT POC
Cadmium	mg/L	0.00274	0.25	1.3	NOT POC
Chloride	mg/L	117	--	45	POC
Choloroform [1]	mg/L	0	--	2.5	NOT POC
Chromium (III)	mg/L	0.00258	2.5	--	NOT POC
Chromium (Total)	mg/L	0.00258	0.25	0.063	NOT POC
Chromium (VI) [1]	mg/L	0	0.25	0.25	NOT POC
Copper	mg/L	0.167	0.25	0.12	POC

Cyanide [1]	mg/L	0	0.025	0.085	NOT POC
Ethylbenzene [1]	mg/L	0	50	--	NOT POC
Hexachlorobenzene [1]	mg/L	0	1.25	--	NOT POC
Iodine	mg/L	--	2500	--	NOT POC
Lead	mg/L	0.00153	0.25	0.125	NOT POC
Mercury	mg/L	0.000061	0.025	--	NOT POC
Naphthalene	mg/L	0.00055	125	--	NOT POC
Nickel	mg/L	0.00528	0.25	0.063	NOT POC
Nitrobenzene [1]	mg/L	0	7.5	--	NOT POC
Pentachlorophenol [1]	mg/L	0	0.2375	--	NOT POC
Phenanthrene [1]	mg/L	0	125	--	NOT POC
Phenol	mg/L	0.1	12.5	1	NOT POC
Sulfide	mg/L	0.71	6.25	--	NOT POC
Surfactants	mg/L	--	25	--	NOT POC
Toluene	mg/L	0.00588	50	--	NOT POC
Zinc	mg/L	0.199	1.25	0.125	POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual).

Table 19: LAGWRP POC Screening Results Based on Biological Process Inhibition Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Influent Concentration	1/4 Inhibition Value (EPA 2004 Guidance Manual) (Appendix G) Activated Sludge	Nitrification	Result
1,2-Dichlorobenzene [1]	mg/L	0	1.25	--	NOT POC
1,3-Dichlorobenzene [1]	mg/L	0	1.25	--	NOT POC
1,4-Dichlorobenzene [1]	mg/L	0	1.25	--	NOT POC
2,4,6 Trichlorophenol [1]	mg/L	0	12.5	--	NOT POC
2,4-Dichlorophenol [1]	mg/L	0	16	16	NOT POC
2,4-Dimethylphenol [1]	mg/L	0	10	--	NOT POC
2,4-Dinitrophenol [1]	mg/L	0	--	37.5	NOT POC
2,4-Dinitrotoluene [1]	mg/L	0	1.25	--	NOT POC
2-Chlorophenol [1]	mg/L	0	1.25	--	NOT POC
Ammonia-Nitrogen	mg/L	49.8	120	--	NOT POC
Anthracene	mg/L	0.00018	125	--	NOT POC
Arsenic	mg/L	0.00206	0.025	0.375	NOT POC
Azobenzene [1]	mg/L	0	1.25	--	NOT POC
Benzene [1]	mg/L	0	25	--	NOT POC
Cadmium	mg/L	0.00107	0.25	1.3	NOT POC
Chloride	mg/L	143	--	45	POC
Choloroform	mg/L	0.00507	--	2.5	NOT POC
Chromium (III)	mg/L	0.00425	2.5	--	NOT POC
Chromium (Total)	mg/L	0.00425	0.25	0.063	NOT POC
Chromium (VI) [1]	mg/L	0	0.25	0.25	NOT POC
Copper	mg/L	0.0943	0.25	0.12	NOT POC

Cyanide [1]	mg/L	0	0.025	0.085	NOT POC
Ethylbenzene [1]	mg/L	0	50	--	NOT POC
Hexachlorobenzene [1]	mg/L	0	1.25	--	NOT POC
Iodine	mg/L	--	2500	--	NOT POC
Lead	mg/L	0.00183	0.25	0.125	NOT POC
Mercury	mg/L	0.000163	0.025	--	NOT POC
Naphthalene [1]	mg/L	0	125	--	NOT POC
Nickel	mg/L	0.0075	0.25	0.063	NOT POC
Nitrobenzene [1]	mg/L	0	7.5	--	NOT POC
Pentachlorophenol [1]	mg/L	0	0.2375	--	NOT POC
Phenanthrene [1]	mg/L	0	125	--	NOT POC
Phenol	mg/L	0.0481	12.5	1	NOT POC
Sulfide	mg/L	--	6.25	--	NOT POC
Surfactants	mg/L	--	25	--	NOT POC
Toluene [1]	mg/L	0	50	--	NOT POC
Zinc	mg/L	0.238	1.25	0.125	POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual).

Table 20: TIWRP POC Screening Results Based on Biological Process Inhibition Criteria

Potential POCs	Units	Monitoring Period (Jan 2020 - Dec 2020) Maximum Influent Concentration	1/4 Inhibition Value (EPA 2004 Guidance Manual) (Appendix G) Activated Sludge	Nitrification	Result
1,2-Dichlorobenzene [1]	mg/L	0	1.25	--	NOT POC
1,2-Diphenylhydrazine	mg/L	0	1.25		NOT POC
1,3-Dichlorobenzene [1]	mg/L	0	1.25	--	NOT POC
1,4-Dichlorobenzene [1]	mg/L	0	1.25	--	NOT POC
2,4,6 Trichlorophenol [1]	mg/L	0.0144	12.5	--	NOT POC
2,4-Dichlorophenol [1]	mg/L	0.00366	16	16	NOT POC
2,4-Dimethylphenol	mg/L	0	10	--	NOT POC
2,4-Dinitrophenol [1]	mg/L	0	--	37.5	NOT POC
2,4-Dinitrotoluene	mg/L	0.00501	1.25	--	NOT POC
2-Chlorophenol [1]	mg/L	0	1.25	--	NOT POC
Ammonia-Nitrogen	mg/L	0	120	--	NOT POC
Anthracene	mg/L	0	125	--	NOT POC
Arsenic	mg/L	0.00439	0.025	0.375	NOT POC
Azobenzene	mg/L	0.0286	1.25	--	NOT POC
Benzene	mg/L	0.00017	25	--	NOT POC
Cadmium[1]	mg/L	0.00042	0.25	1.3	NOT POC
Chloride[1]	mg/L	0.00095	--	45	NOT POC
Choloroform	mg/L	0.0258	--	2.5	NOT POC
Chromium (III)	mg/L	0.00502	2.5	--	NOT POC
Chromium (Total)	mg/L	0.00502	0.25	0.063	NOT POC
Chromium (VI) [1]	mg/L	0	0.25	0.25	NOT POC

Copper	mg/L	0.0416	0.25	0.0125	POC
Cyanide [1]	mg/L	0.000011	0.025	0.085	NOT POC
Ethylbenzene	mg/L	0.0167	50	--	NOT POC
Hexachlorobenzene [1]	mg/L	0	1.25	--	NOT POC
Iodine [1]	mg/L	0	2500	--	NOT POC
Lead	mg/L	0.00148	0.25	0.125	NOT POC
Mercury [1]	mg/L	0.000026	0.025	--	NOT POC
Methylchloride [1]	mg/L	0	--	--	NOT POC
Naphthalene	mg/L	0.0062	125	--	NOT POC
Nickel	mg/L	0.0145	0.25	0.063	NOT POC
Nitrobenzene [1]	mg/L	0	7.5	--	NOT POC
Pentachlorophenol [1]	mg/L	0	0.2375	--	NOT POC
Phenanthrene	mg/L	0.0027	125	--	NOT POC
Phenol	mg/L	0.347	12.5	1	NOT POC
Silver [1]	mg/L	0	--	--	NOT POC
Sulfide [1]	mg/L	0	6.25	--	NOT POC
Surfactants	mg/L	0.00706	25	--	NOT POC
Tetrachloroethylene	mg/L	0.0074	--	--	NOT POC
Toluene	mg/L	0.0546	50	--	NOT POC
Trichloroethylene [1]	mg/L	0.0006	--	--	NOT POC
Zinc	mg/L	0.149	1.25	0.02	POC

1 When the entire data set, after removal of outliers, is < MDL, the maximum pollutant concentration is considered zero for POC determination (per appendix Q of the 2004 EPA Guidance Manual).

4.5 POC Summary of Results

Table 21: Summary of Pollutants Identified as POC

POCs	HWRP					DCTWRP					LAGWRP					TIWRP					
	EPA	NPDES		Biosol	INH	EPA	NPDES		WDR		INH	EPA	NPDES		WDR		INH	EPA	NPDES		WRR			INH
	Inf	Inf	Eff	Bio	Inf	Inf	Inf	Eff	Inf	Eff	Inf	Inf	Inf	Eff	Inf	Eff	Inf	Inf	Inf	Eff	AWPF Inf	AWPF Eff	Ble	Inf
Ammonia-N			X				X	X					X											
BOD_5@20°C		X	X				X		X				X		X				X	X				
Boron																							X	
Chloride								X		X	X			X		X	X						X	
Copper							X	X			X													X
Dibenzo(a,h) Anthracene							X																	
Indeno(1,2,3-cd) Pyrene								X																
MBAS							X						X											
O&G		X					X		X				X		X				X					
Sulfate																X								
TDS								X		X				X		X							X	
TSS		X	X				X		X				X		X				X					
Zinc					X						X						X							X

SECTION 5: MAXIMUM ALLOWABLE HEADWORKS LOADING ANALYSIS

5.1 MAHL METHODOLOGY

The second part of the evaluation study determines whether new local limits need to be developed for the POCs identified for each plant. Development of local limits shall be based on the MAHL analysis conducted for each POC. MAHL is the estimated maximum loading of a pollutant that can be received at a POTW's headworks from all permitted industrial users and other uncontrolled sources without causing pass-through or interference.

The MAHL analysis involves the following steps:

1. Calculating pollutant removal efficiencies
2. Calculating the Allowable Headworks Loading (AHL) for each environmental criterion
3. Selecting the Maximum Allowable Headworks Loading (MAHL) based on the most stringent AHL
4. Comparing the selected MAHL with the actual influent loadings

The need to develop local limits is indicated when the average plant influent loading exceeds 60% of the MAHL or the maximum daily influent loading exceeds 80% of the MAHL. This comparison determines whether the plant influent loading is at an acceptable level to meet all environmental criteria or it should be curtailed through appropriate discharge limitations, i.e., "local limits".

5.2 PLANT REMOVAL EFFICIENCIES

The first step in calculating the MAHL of a particular POC is to assess the removal efficiency of the treatment processes. The overall removal for each POC was determined from influent and effluent concentrations. Median values were used instead of average values for the removal efficiencies to account for variability.

Table 22 presents the results of the removal efficiencies for the 13 POCs.

Table 22: Overall Plant Removal Efficiencies

POCs	Median Removal Efficiency			
	HWRP	DCTWRP	LAGWRP	TIWRP
Ammonia-N	-16.5%	96.6%	95.8%	
BOD_5@20°C	94.3%	99.0%	99.9%	99.2%
Boron				NA
Chloride		-16.3%	-11.5%	-44.6%
Copper		91.4%		96.0%
Dibenzo(a,h) Anthracene		NA		
Indeno(1,2,3-cd) Pyrene		NA		
MBAS		98.5%	98.4%	
Oil and Grease	100.0%	95.7%	97.9%	97.1%
Sulfate			-32.5%	
TDS		9%	4.7%	-36.3%
TSS	95.1%	99.6%	99.9%	98.8%
Zinc	90.2%	54.4%	73.3%	86.4%

5.3 EQUATIONS FOR AHL AND MAHL CALCULATIONS

The AHL calculations for each POC were conducted using various environmental criteria including water quality-based AHLs (NPDES and WDR), biosolids quality-based AHLs, and inhibition-based AHLs. The equations used in AHL calculations are those found in the 2004 EPA Guidance Manual.

Water Quality-Based AHL (NPDES and WDR)

$AHL_{NPDES} = (8.34 \times C_{NPDES} \times Q_{POTW}) / (1-R_{POTW})$

$AHL_{WDR} = (8.34 \times C_{WDR} \times Q_{POTW}) / (1-R_{POTW})$

Where:

AHL_{NPDES} = AHL based on NPDES limit, lbs/day

AHL_{WDR} = AHL based on WDR limit, lbs/day

C_{NPDES} = NPDES permit limit, mg/L

C_{WDR} = WDR permit limit, mg/L

R_{POTW} = Median plant removal efficiency, decimal

Q_{POTW} = Average plant influent flow, MGD

8.34 = Conversion factor

Sludge-Based AHL (Biosolids)

$AHL_{Biosolids} = C_{SlgStd} \times Q_{Sldg} \times 0.002 / R_{POTW}$

Where:

$AHL_{Biosolids}$	=	AHL based on the 40 CFR 503 Biosolids Reuse Requirements, lbs/day
C_{slgstd}	=	Ceiling concentration from Table 1 of 40CFR 503.13, mg/kg dry sludge
Q_{sldg}	=	Total sludge flow rate to disposal, dry tons per day
R_{POTW}	=	Median plant removal efficiency, decimal
0.002	=	Conversion factor

Inhibition-Based AHL (Activated Sludge and Nitrification)

$AHL_{sec} = 8.34 \times C_{inhib2} \times Q_{potw} / (1-R_{Prim})$

Where:

AHL_{sec}	=	AHL based on Biological Inhibition Criteria, lbs/day
C_{inhib2}	=	Inhibition criterion for secondary treatment (Activated Sludge and Nitrification), mg/L
R_{prim}	=	Median removal efficiency from headworks to primary effluent, decimal
Q_{POTW}	=	Average plant influent flow, MGD

Inhibition-Based AHL (Digestion)

$AHL_{dgstr} = 8.34 \times C_{dgstrnhib} \times Q_{dgstr} / (R_{POTW})$

Where:

AHL_{dgstr}	=	AHL based on Biological Inhibition Criteria, lbs/day
$C_{dgstrinhib}$	=	Inhibition criterion for sludge digestion, mg/L
R_{POTW}	=	Median plant removal efficiency, decimal
Q_{dgstr}	=	Sludge flow rate to digester, MGD

Table 23: Allowable Headworks Loadings

POCs	Plant	NPDES AHL lbs/day	WDR AHL lbs/day	Biosolids AHL lbs/ day	Process Inhibition AHL Activated Sludge/ Nitrification/ Digestion lbs/day	Maximum Allowable Headworks Loading (MAHL) lbs/day
Ammonia-N	DCTWRP	28,578	--	--	39,317	28,578
	LAGWRP	9,714	--	--	16,463	9,714
	HWRP	104,187	--	--	--	104,187
BOD_5@20°C	DCTWRP	624,704	624,704	--	--	624,704
	LAGWRP	1,851,671	-	--	--	1,851,671
	HWRP	1,093,610	--	--	--	1,093,610
	TIWRP	193,900	-			193,900
Boron	TIWRP		153			153
Chloride	DCTWRP	53,543	53,543	--	58,976	53,543
	LAGWRP	23,384	23,384	--	24,695	23,384
	TIWRP	-	17,605	--	-	17,605
Copper	DCTWRP	103	--	--	82	82
	TIWRP	-	--	--	32	32
MBAS	DCTWRP	10,843	--	--	--	10,843
	LAGWRP	4,264	--	--	-	4,264
O&G	DCTWRP	76,450	76,450	--	--	76,450
	LAGWRP	65,102	-	--	--	65,102
	HWRP	52,333,286	--	--	--	52,333,286
	TIWRP	35,119	-	--	--	35,119
Sulfate	LAGWRP	-	31,073			31,073
TDS	DCTWRP	342,144	--	--	--	342,144
	LAGWRP	136,806	--	--	--	136,806

	TIWRP	-	59,758	--	--	59,758
TSS	DCTWRP	1,330,451	1,330,451	--	--	1,330,451
	LAGWRP	2,503,604	2,057,895	--	--	2,503,604
	HWRP	1,293,865	--	--	--	1,293,865
	TIWRP	125,615			-	125,615
Zinc	DCTWRP	147	--	--	410	147
	LAGWRP	-	--	--	69	69
	HWRP	--	--	-	16.8	16.8
	TIWRP				15	15

SECTION 6: DETERMINATION OF THE NEED TO DEVELOP LOCAL LIMITS

6.1 COMPARISON OF PLANT INFLUENT LOADINGS TO MAHL

EPA recommends a need for local limits when the average plant influent loading exceeds 60% of the MAHL or when the maximum daily influent loading exceeds 80% of the MAHL. The plant influent loadings are calculated by multiplying the average flow rate during the monitoring period by the concentration values. The equation used in influent loading calculation is found in the 2004 EPA Guidance Manual.

$L_{inf} = 8.34 \times Q_{POTW} \times C_{POC}$

Where:

L_{inf} = Current influent loading (monthly average or daily maximum), lbs/day
Q_{POTW} = Average influent flow, MGD
C_{POC} = Concentration of the POC (monthly average or daily maximum), mg/L
8.34 = Conversion factor

The calculations for the plant average and maximum influent loading for these POCs are found in Appendix F.

Table 24 shows the comparison of the influent loadings to the MAHL.

Table 24: Comparison of Current Plant Influent Loadings to MAHL

POC	Plant	MAHL		Average Influent Loading [1]		Criteria Exceeded?	Maximum Influent Loading [1]		Criteria Exceeded?
		Criteria	lbs/day	lbs/day	%MAHL	<60%	lbs/day	%MAHL	<80%
Ammonia-N	DCTWRP	NPDES	28,578	15,530	54.3%	No	12,450	43.6%	No
	LAGWRP	NPDES	9,714	5,154	53%	No	4,253	110%	Yes
	HWRP	NPDES	104,187	76,546	73.5%	Yes	93,781	90.0%	Yes
	TIWRP	NPDES	41,899	2,512	5.99%	No	3,484	8.31%	No
BOD_5@20°C	DCTWRP	NPDES	624,704	105,164	16.8%	No	65,856	10.5%	No
	LAGWRP	NPDES	2,743,860	159,748	5.8%	No	303,405	11.1%	No
	HWRP	NPDES	1,093,610	725,502	66.3%	Yes	927,346	84.8%	Yes
	TIWRP	NPDES	193900	23,463	12.1%	No	36,324	18.7%	No
Boron	TIWRP	WRR	153	67.7	44.3%	No	92	60.1%	No
Chloride	DCTWRP	NPDES	53,543	31,672	59.2%	No	9,108	17.0%	No
	LAGWRP	NPDES	23,384	17,664	75.5%	Yes	19,619	83.9%	Yes
	TIWRP	WRR	22,696	105,787	466%	Yes	119,095	525%	Yes
Copper	DCTWRP	Inhibition	82	40	49.4%	No	55	66.8%	No
	HWRP	Biosolids	1,461	240	16.4%	No	255	17.5%	No
	TIWRP	INH	32.1	2.19	7%	No	2.53	8%	No
MBAS	DCTWRP	NPDES	10,843	2,350	21.7%	No	2,588	23.9%	No
	LAGWRP	NPDES	4,264	781	18.3%	No	915	21.5%	No
O&G	DCTWRP	NPDES	76,450	22,209	29.1%	No	26,867	35.1%	No
	LAGWRP	NPDES	1,371,930	7,031	0.5%	No	9,192	0.7%	No
	HWRP	NPDES	52,333,286	98,387	0.2%	No	121,413	0.2%	No
	TIWRP	NPDES	35,119	5,334	15.2%	No	7,940	22.6%	No
Sulfate	LAGWRP	NPDES	31,073	18,064	58.1%	No	23,872	76.8%	No
TDS	DCTWRP	NPDES	342,144	189,377	55.4%	No	200,517	58.6%	No

	LAGWRP	NPDES	136,806	102,117	74.6%	Yes	110,852	81.0%	Yes
	TIWRP	WRR	59,758	294,129	492%	Yes	331,482	554.7%	Yes
TSS	DCTWRP	NPDES	1,330,451	93,348	7.0%	No	213,623	16.1%	No
	LAGWRP	NPDES	2,057,895	116,060	5.6%	No	86,706	4.2%	No
	HWRP	NPDES	1,293,865	722,984	55.9%	No	804,886	62.2%	No
	TIWRP	NPDES	125,615	16,945	13.5%	No	27,392	21.8%	No
Zinc	DCTWRP	NPDES	147	55	37.3%	No	65	44.2%	No
	LAGWRP	INH	69	27.1	39.6%	No	33	47.6%	No
	TIWRP	INH	15.0	13.2	87.6%	Yes	14.8	98.5%	Yes
	HWRP	INH	2,569	378	14.7%	No	412	16.1%	No

1 Average and maximum influent loadings are calculated based on average and maximum concentration and average influent flow for each plant.

6.2 POCS WITH INFLUENT LOADING BELOW MAHL THRESHOLD CRITERIA

As shown in Table 24, the POCs that meet the influent-to-MAHL loading criteria, have influent loadings that are significantly lower than their MAHL threshold levels (i.e., 60% and 80%). This indicates that local limits do not need to be developed for these POCs. Most of these pollutants were identified as POCs because their influent concentrations exceeded their respective water quality permit limits. However, because of the high removal efficiencies achieved at the plants, the MAHL values calculated for these pollutants are also high. As a result of the elevated MAHL values, their influent loadings do not represent an appreciable concern for violating the discharge limits.

6.3 POCS WITH INFLUENT LOADING EXCEEDING MAHL THRESHOLD CRITERIA

The findings from the comparison indicate that five POCs: ammonia, BOD, chloride, TDS, and Zinc did not pass the influent-to-MAHL criteria in one or more plants. In these cases the plant's influent loadings exceeded the MAHL threshold levels (i.e., 60% and 80%) indicating that local limits need to be developed for ammonia at HWRP and LAGWRP; BOD at HWRP; chloride at LAGWRP and TIWRP; TDS at LAGWRP and TIWRP; and Zinc at TIWRP.

In their 2004 Guidance Manual, the EPA cautioned POTWs that developing and establishing a new local limit for pollutants based solely on exceedance of influent-to-MAHL criteria may not complete the evaluation and analysis should be verified and coupled with an examination of actual plant conditions.

An in-depth review and statistical analysis of POCs effluent and biosolids monitoring data showed that the probability of the plants exceeding their permit limits for these pollutants is low. At these levels, the City decided it was unnecessary to develop new local limits for these POCs.

Ammonia at HWRP and LAGWRP

Ammonia MAHL is derived from NPDES-based AHL. The NPDES monthly average limit for ammonia (as N) at HWRP is 58 mg/L and 3.7 mg/L at LAGWRP.

The ammonia effluent monitoring data for HWRP indicates that the average monthly effluent concentration was 44.4 mg/L which represents 73.5% of the monthly discharge limit and the maximum effluent concentration was 49 mg/L, which represents 90% of the daily maximum discharge limit, respectively.

Similarly, the ammonia effluent monitoring data for LAGWRP indicates that the average monthly effluent concentration was 1.5 mg/L which represents 53% of the monthly discharge limit and the maximum effluent concentration was 1.7 mg/L, which represents 70% of the daily maximum discharge limit, respectively.

It is noteworthy that ammonia loading is largely attributed to domestic sources and the higher levels are attributed to effective water conservation efforts within the City of Los Angeles.

BOD at HWRP

BOD monthly effluent average concentration at HWRP is 20.2 mg/L, which represents 66.3% of the NPDES discharge limitation.

BOD is also largely attributed to domestic sources and the higher levels are attributed to effective water conservation efforts within the City of Los Angeles.

Chloride and TDS at LAGWRP

Chloride MAHL is derived from NPDES-based AHL. At LAGWRP the NPDES monthly average limit for chloride is 190 mg/L. The chloride effluent monitoring data indicates that the average and maximum monthly effluent concentrations were 143 mg/L and 154 mg/L, respectively, which are below the 190 mg/L permit limit; these concentrations represent 75.5% and 83.9% of the limit, respectively.

TDS MAHL is derived from WDR-based AHL. The WDR monthly average limit for TDS at LAGWRP is 950 mg/L. The TDS effluent monitoring data indicates that the average and maximum monthly effluent concentrations were 710 mg/L and 760 mg/L, respectively, which are below the 950 mg/L permit limit and are equivalent to 74.6% and 81.0% of the limit, respectively.

The City of Los Angeles will study the feasibility of controlling the amount of TDS being discharged by its industrial users by applying a surcharge limit. Since most of the incoming flow to the Los Angeles Glendale Water Reclamation Plant is from the cities of Burbank and Glendale, the city of Los Angeles will work with them in order to establish a coordinated and consistent approach to TDS source control among all the municipalities involved.

Chloride and TDS at TIWRP

Chloride and TDS at TIWRP concentration limits in the 'recycled water injected into the Barrier' which is a blend of potable water and recycled water (AWPF effluent) is compared to the maximum observed concentrations of these pollutants, chloride was 178 mg/L and its limit is 250 mg/L representing 71% of its limit, while TDS maximum concentration was 464 mg/L and its limit is 800 mg/L representing 58% of the limit.

At TIWRP the main source of chloride and TDS is sea water intrusion. The City is working on a project to reduce this problem.

Zinc at TIWRP

Zinc MAHL is derived from the biological process inhibition levels found in literature for activated sludge, nitrification, and anaerobic sludge digestion processes. These inhibition threshold levels are found in Appendix G of the 2004 Guidance Manual.

The inhibition threshold levels for zinc vary from 0.3 mg/L to 10 mg/L for activated sludge and from 0.08 mg/L to 0.5 mg/L for nitrification. The maximum zinc influent concentration was 0.149 mg/L and the average influent concentration 0.133 mg/L, while the maximum effluent concentration was 0.026 mg/L and the average effluent concentration was 0.017 mg/L. The influent concentration only exceeds the smallest values found in the literature, and the plant has never been negatively affected in its operation. Furthermore, the low level of zinc influent does not exceed the EPA adjusted water quality criterion from the California Ocean Plan. Table 4 indicates zinc would be a POC in relation to the applicable water quality criteria, but when the initial dilution credit from the water quality criteria is applied from the POC status is invalidated.

With this in mind, the City considers the development of new Local Limits for this pollutant unnecessary.

SECTION 8: SUMMARY AND RECOMMENDATIONS

The General Pretreatment Regulations require the City to conduct periodic evaluations to determine whether its pretreatment local limits are adequate to meet the plants NPDES permit effluent discharge limits, Biosolids Beneficial Reuse Requirements, and Water Recycling Requirements. This local limit evaluation study involved a two-fold process. The first part identified the POC through a screening process. The second part determined whether local limits were needed to be developed for each POC through MAHL analysis.

The POCs identified for each plant are as follows:

DCTWRP: ammonia (as N), BOD, chloride, copper, dibenzo(a,h) anthracene, indeno(1,2,3-cd) pyrene, methylene blue active substances (MBAS), oil and grease, TDS, TSS, and zinc.

LAGWRP: ammonia (as N), BOD, chloride, methylene blue active substances (MBAS), oil and grease, sulfate, TDS, TSS, and zinc.

HWRP: ammonia (as N), BOD, chloride, copper, oil and grease, TSS, and zinc.

TIWRP: BOD, Boron, chloride, copper, oil and grease, TDS, and zinc.

The MAHL analysis further narrowed the list to five POCs with maximum concentrations exceeding the influent loading-to-MAHL criteria. These five pollutants are:

1. Ammonia at HWRP and LAGWRP
2. BOD at HWRP
3. Chloride at LAGWRP and TIWRP
4. TDS at LAGWRP and TIWRP
5. Zinc at TIWRP

Developing and establishing a new local limit based solely on exceedance of Influent-to-MAHL criteria is not a complete evaluation of the plant conditions (2004 EPA Guidance Manual) and the analysis should be verified and coupled with the examination of actual plant conditions.

Review of the processes at HWRP indicated that developing and imposing an ammonia local limit would not be useful or appropriate. Ammonia loading to HWRP and LAGWRP is largely attributed to domestic sources. The City has also decided that developing local limits for TDS and chloride is not required at this time. The City of Los Angeles plans to study the feasibility of controlling the amount of TDS and chloride being discharged by its industrial users, by applying a surcharge limit.

Although the local limits evaluation study indicated that technically based local limits do not need to be developed for any particular pollutant, the City will retain the existing local limits in the City's Industrial Waste Ordinance (L.A.M.C. 64.30). These local limits have proven to protect the City's wastewater collection and treatment system and if they are removed the influent loading to the plant may increase. The City will continue to regulate industrial users through its permitting, inspection, monitoring and enforcement activities. The City will also continue to routinely monitor background, industrial, and plant conditions. Any changes in the influent characteristic and flow, plant operations, and permit requirements over time will be evaluated to ensure that local limits are effective in protecting the treatment works, its workers, the public, and the environment.